

O I P E JC1123
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PATENT & TRADEMARK OFFICE

TITLE: EXTENDING ROLE SCOPE IN A DIRECTORY SERVER SYSTEM

Inventor(s): Karine Excoffier and Robert Byrne

USSN: 10/613,660

Attorney Docket #: SUN-P7528

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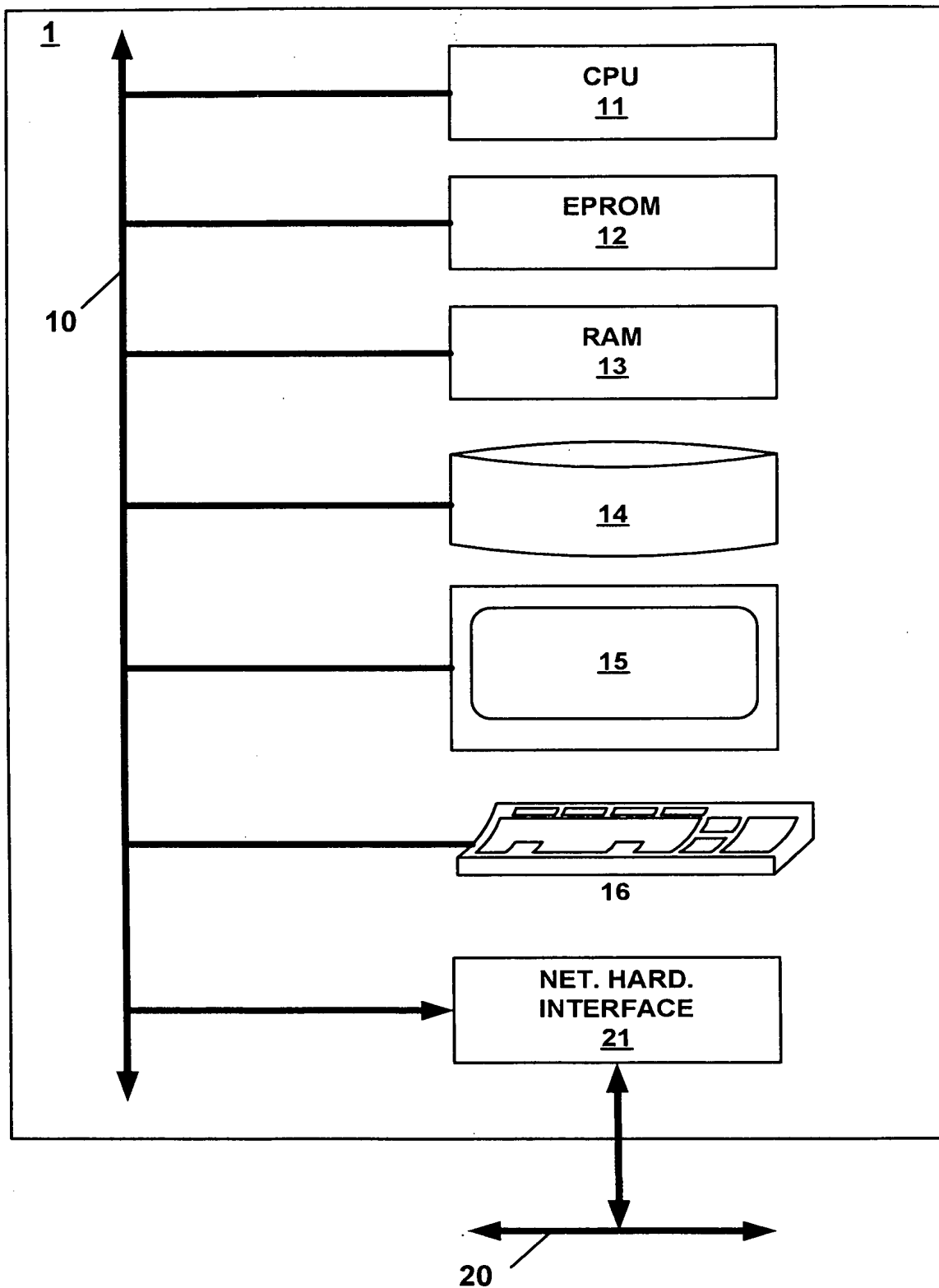


FIGURE 1

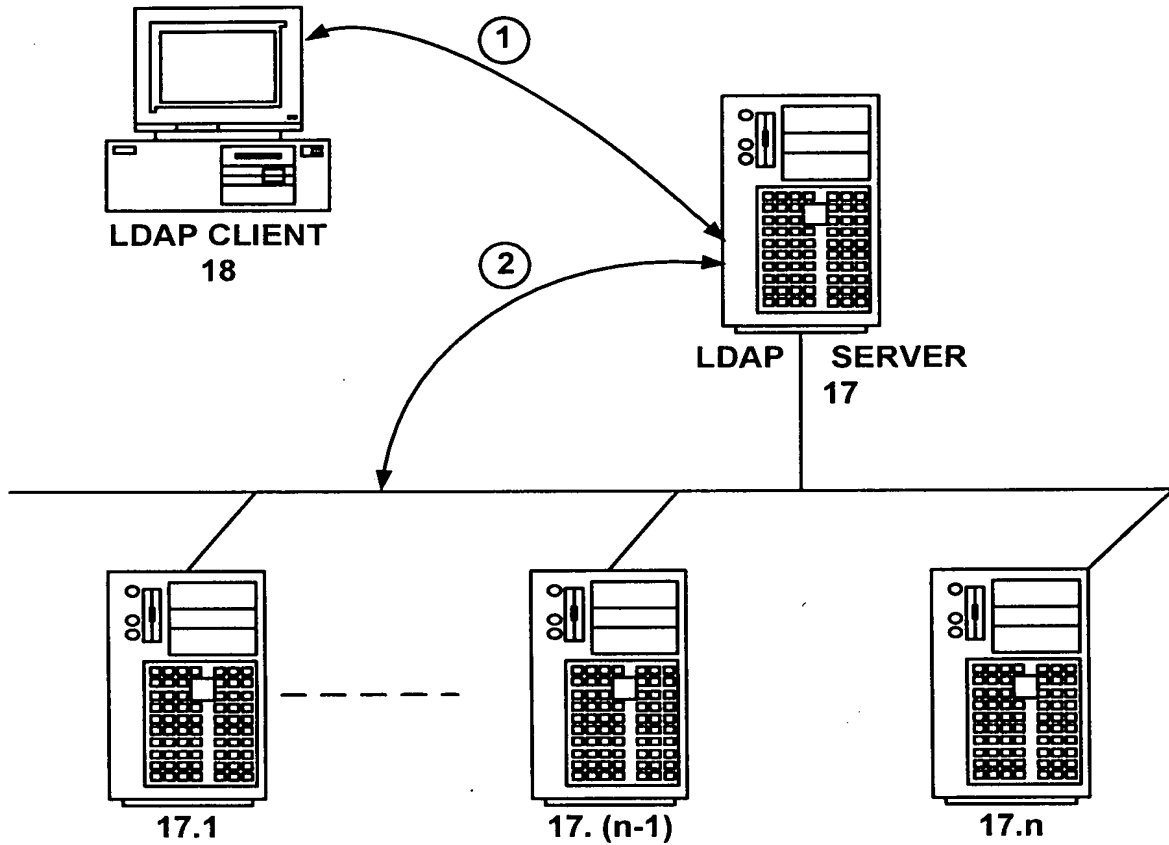


FIGURE 2



TITLE: EXTENDING ROLE SCOPE IN A DIRECTORY SERVER SYSTEM

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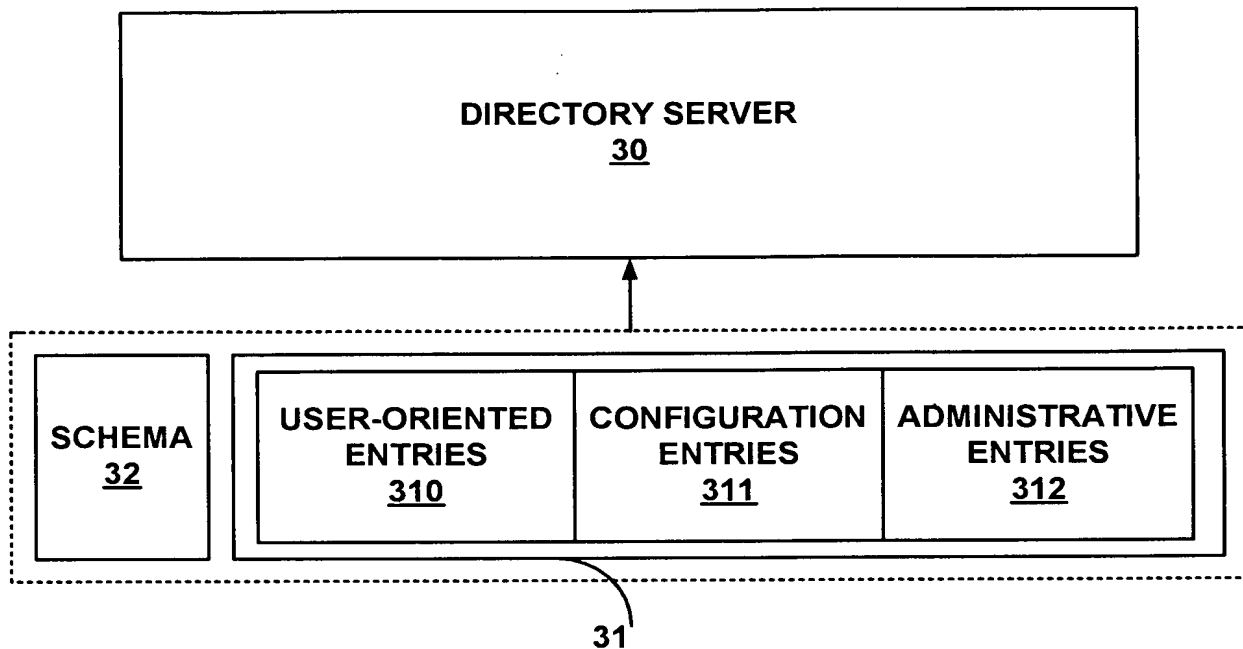


FIGURE 3

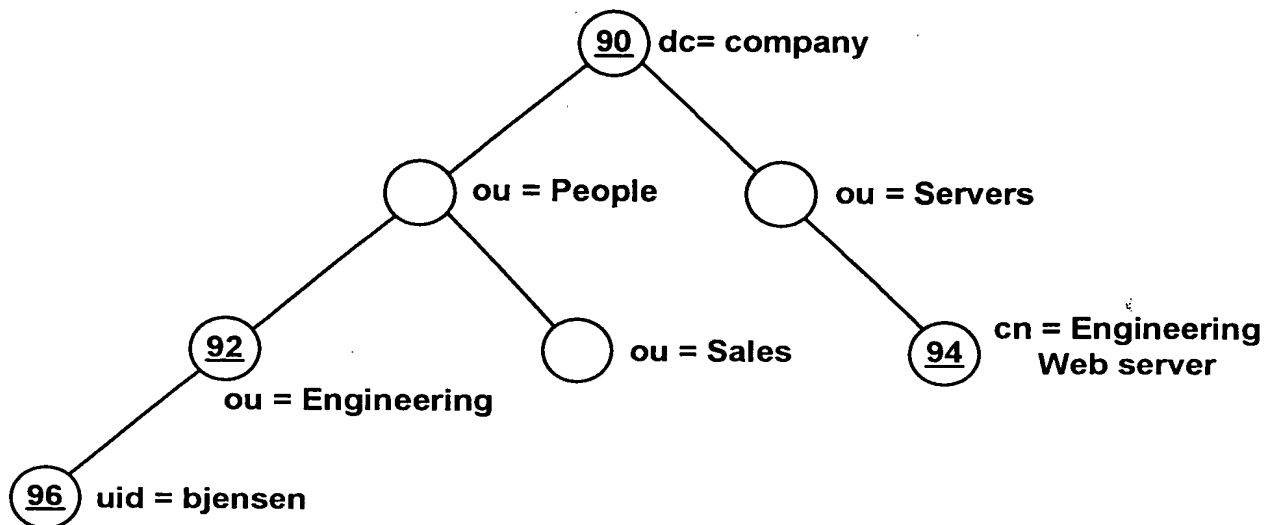
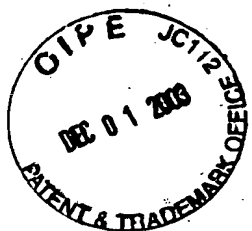


FIGURE 4
(PRIOR ART)



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ENTRY
404

ATTRIBUTE TYPE
400

ATTRIBUTE VALUE
402

| | |
|---------------|---|
| dn : | uid=Joe, ou=people, dc=france, dc=sun, dc=com |
| objectClass : | top |
| objectClass : | person |
| objectClass : | organizationlPerson |
| objectClass : | inetOrgPerson |
| cn : | Joe |
| sn : | Rayan |
| uid : | joerayan |
| mail : | joerayan@sun.com |
| phoneNumber : | 778 |

FIGURE 5
(PRIOR ART)



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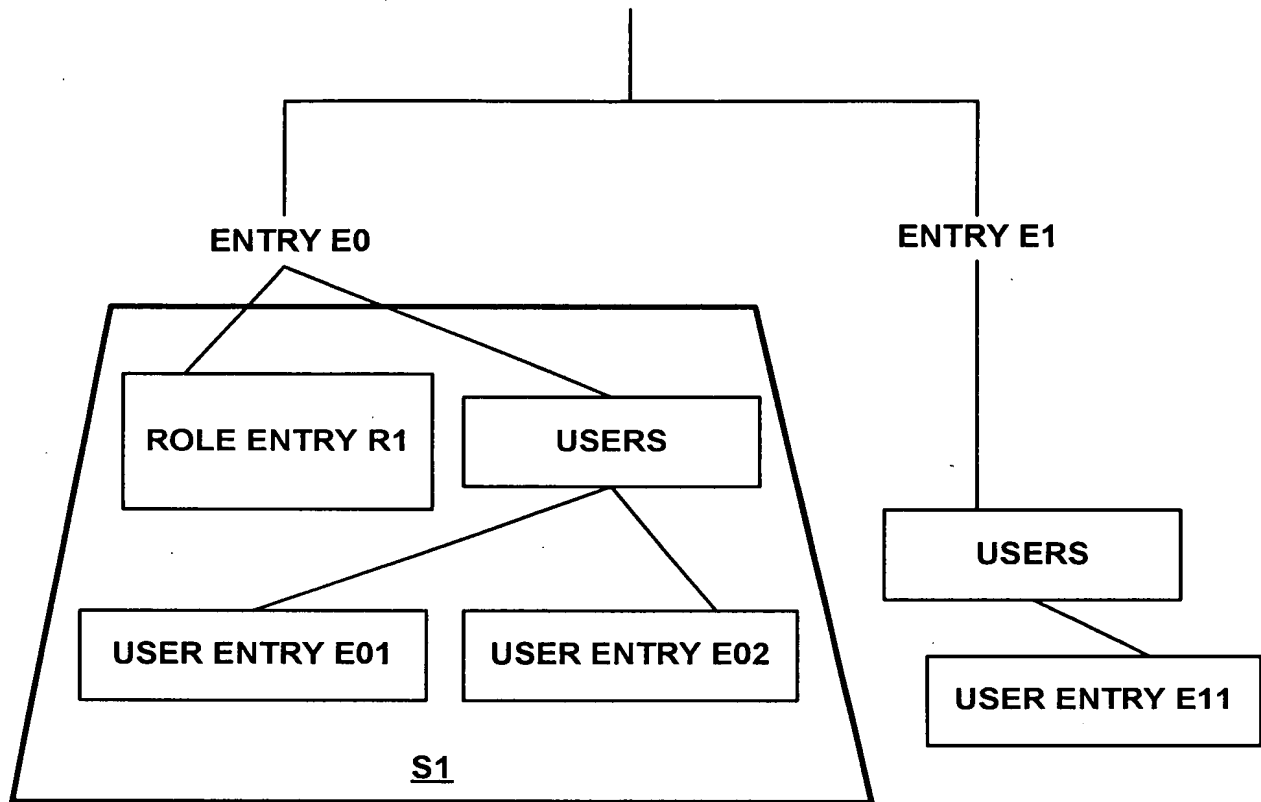


FIGURE 6
(PRIOR ART)



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| ROLE TYPE | OBJECT CLASSES <u>71</u> | ATTRIBUTES <u>72</u> |
|-----------------------------|---|------------------------------------|
| MANAGED ROLE <u>701</u> | nsSimpleRoleDefinition nsManagedRoleDefinition | description (optional) |
| FILTERED ROLE <u>702</u> | nsComplexRoleDefinition nsFilteredRoleDefinition | NsRoleDN description (optional) |
| NESTED ROLE <u>703</u> | nsComplexRoleDefinition nsNestedRoleDefinition | NsRoleDN description (optional) |

FIGURE 7
(PRIOR ART)



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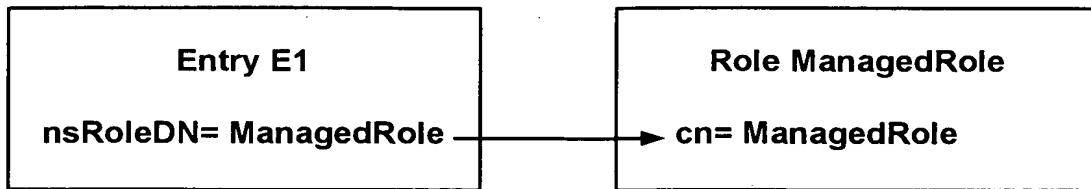


FIGURE 8A
(PRIOR ART)

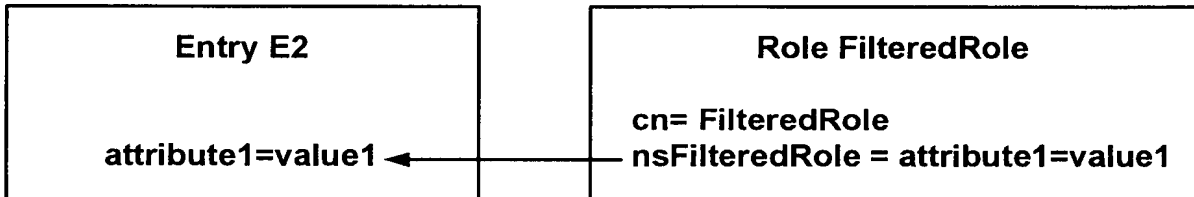


FIGURE 8B
(PRIOR ART)

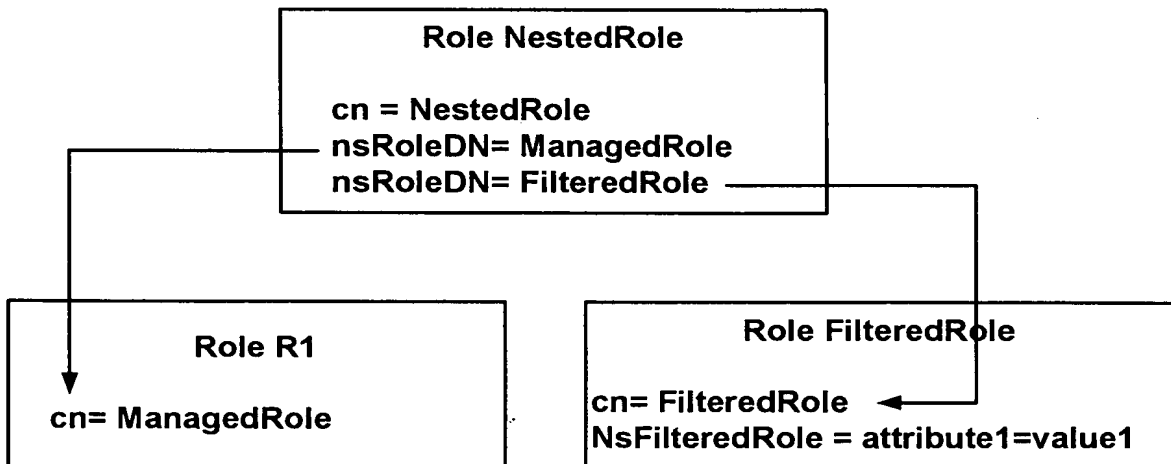


FIGURE 8C
(PRIOR ART)

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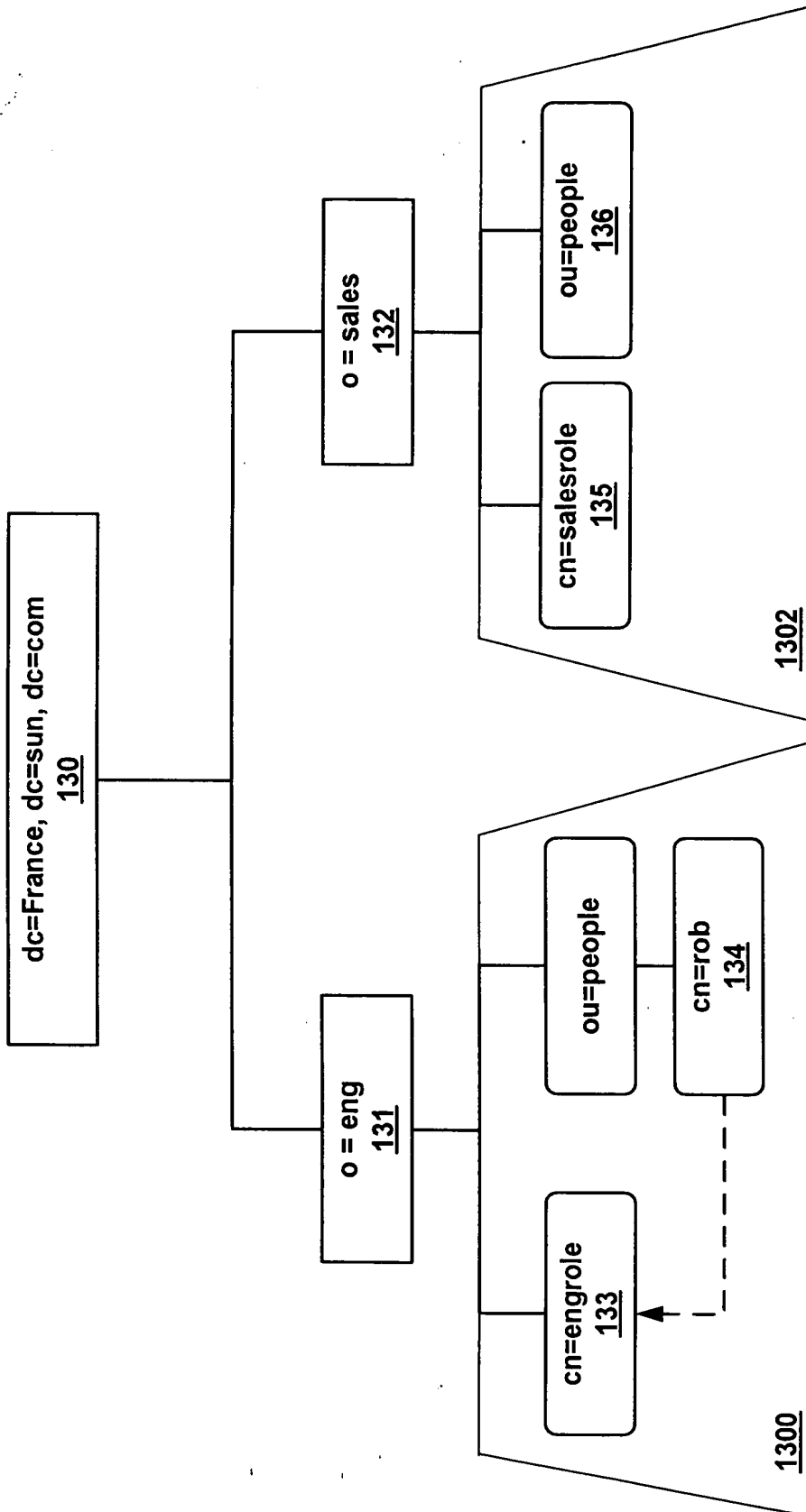
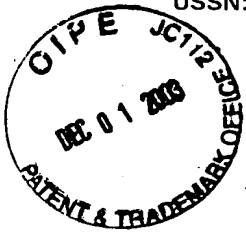


FIGURE 9

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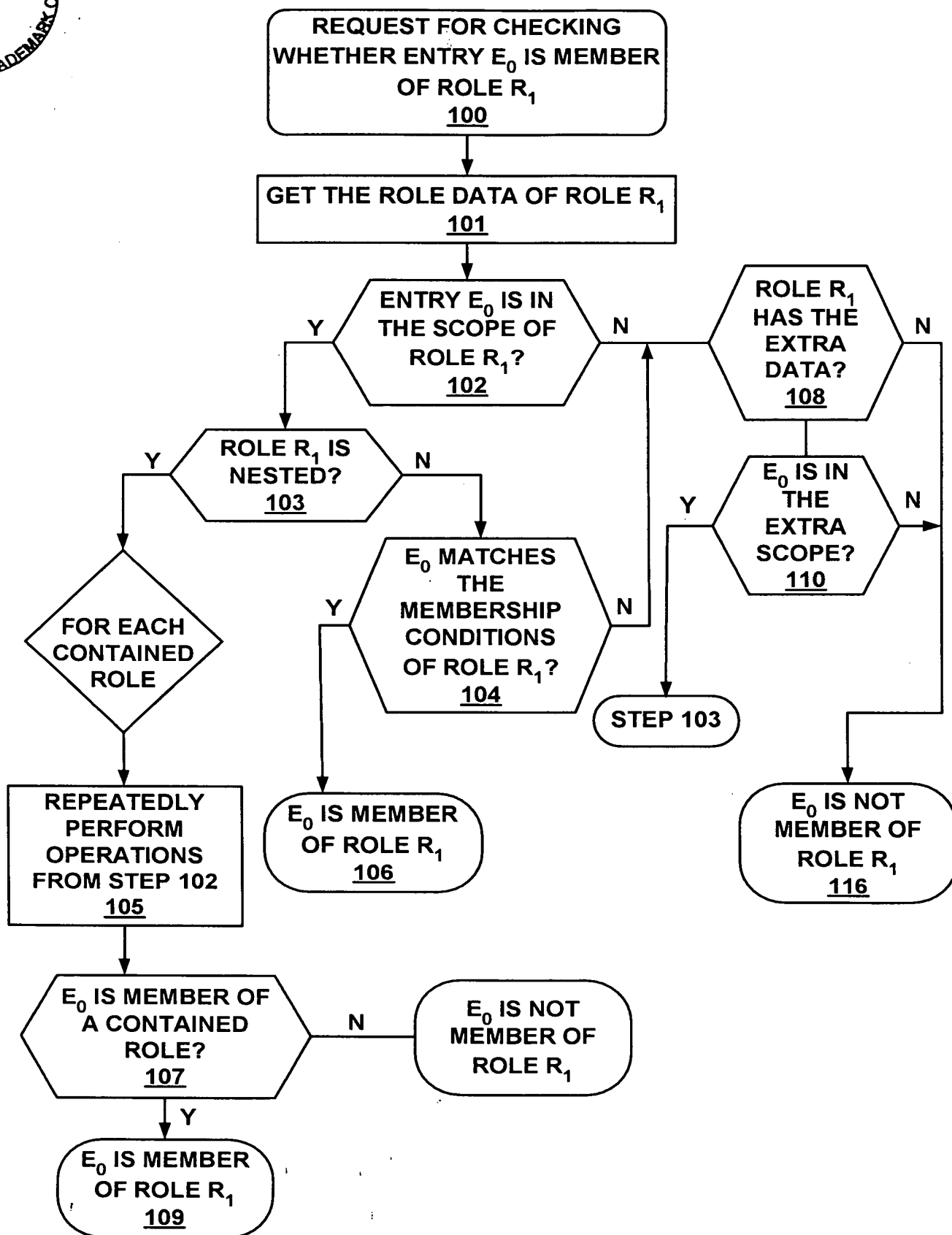


FIGURE 10



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| ATTRIBUTES | ATTRIBUTE VALUES |
|----------------------|---|
| <i>dn</i> | DISTINGUISHED NAME OF THE NESTED ROLE |
| <i>objectclass</i> | OBJECT CLASSES OF THE NESTED ROLE |
| <i>nsRoleScopeDn</i> | DISTINGUISHED NAME OF THE EXTENDED SCOPE |
| <i>nsRoleDn</i> | DISTINGUISHED NAMES OF THE ROLES CONTAINED BY THE NESTED ROLE |

FIGURE 11

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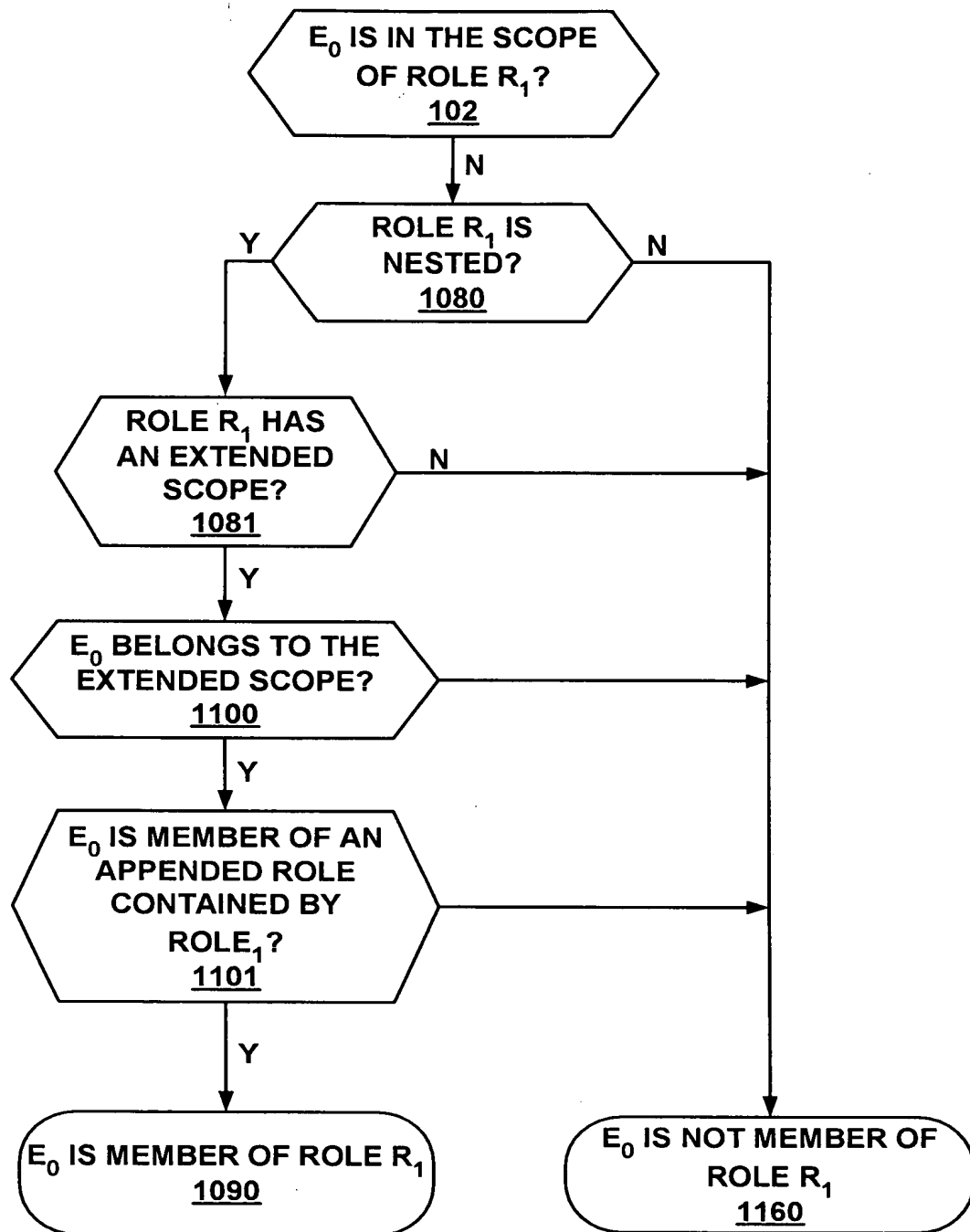


FIGURE 12



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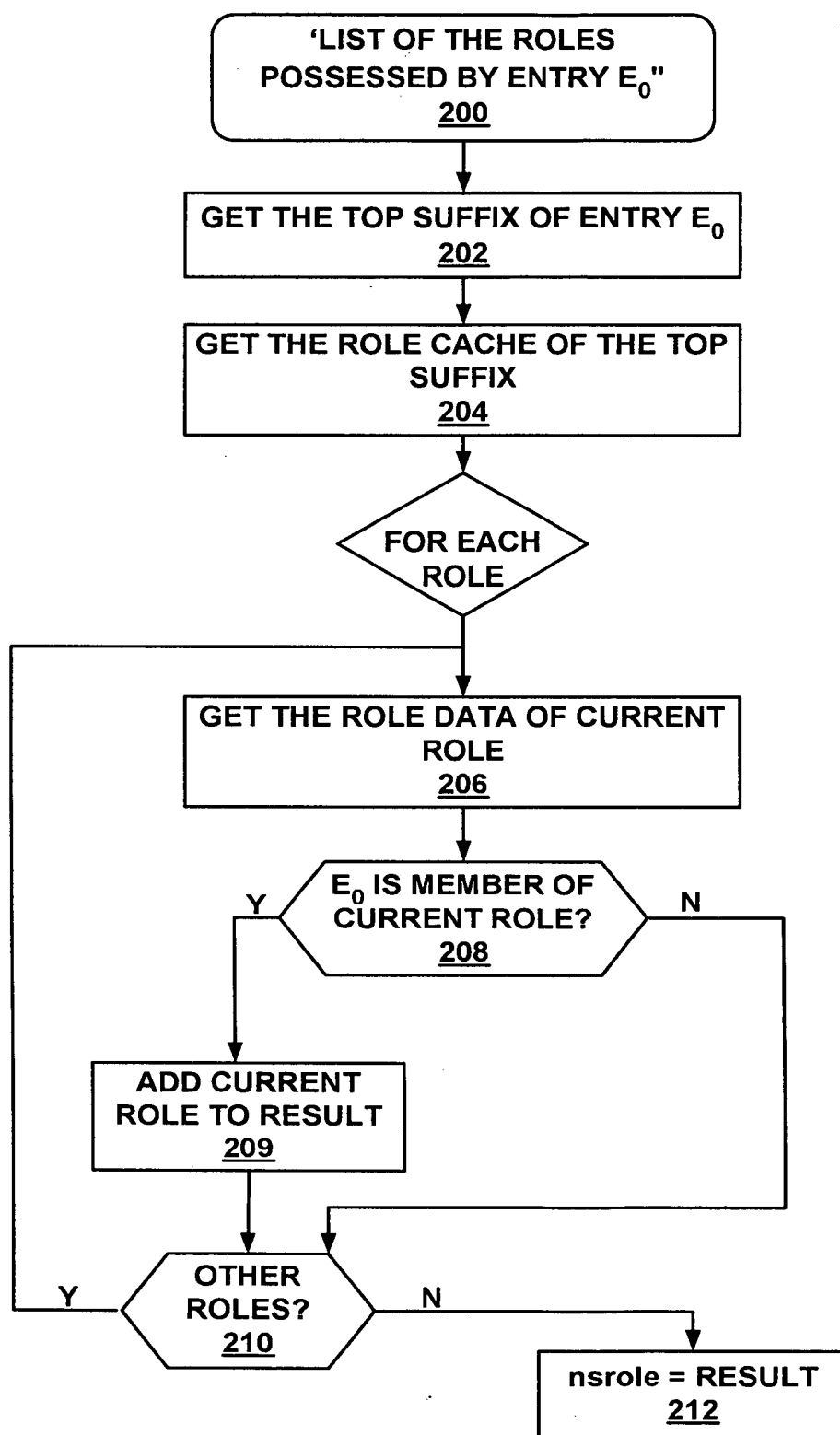


FIGURE 13A
(PRIOR ART)



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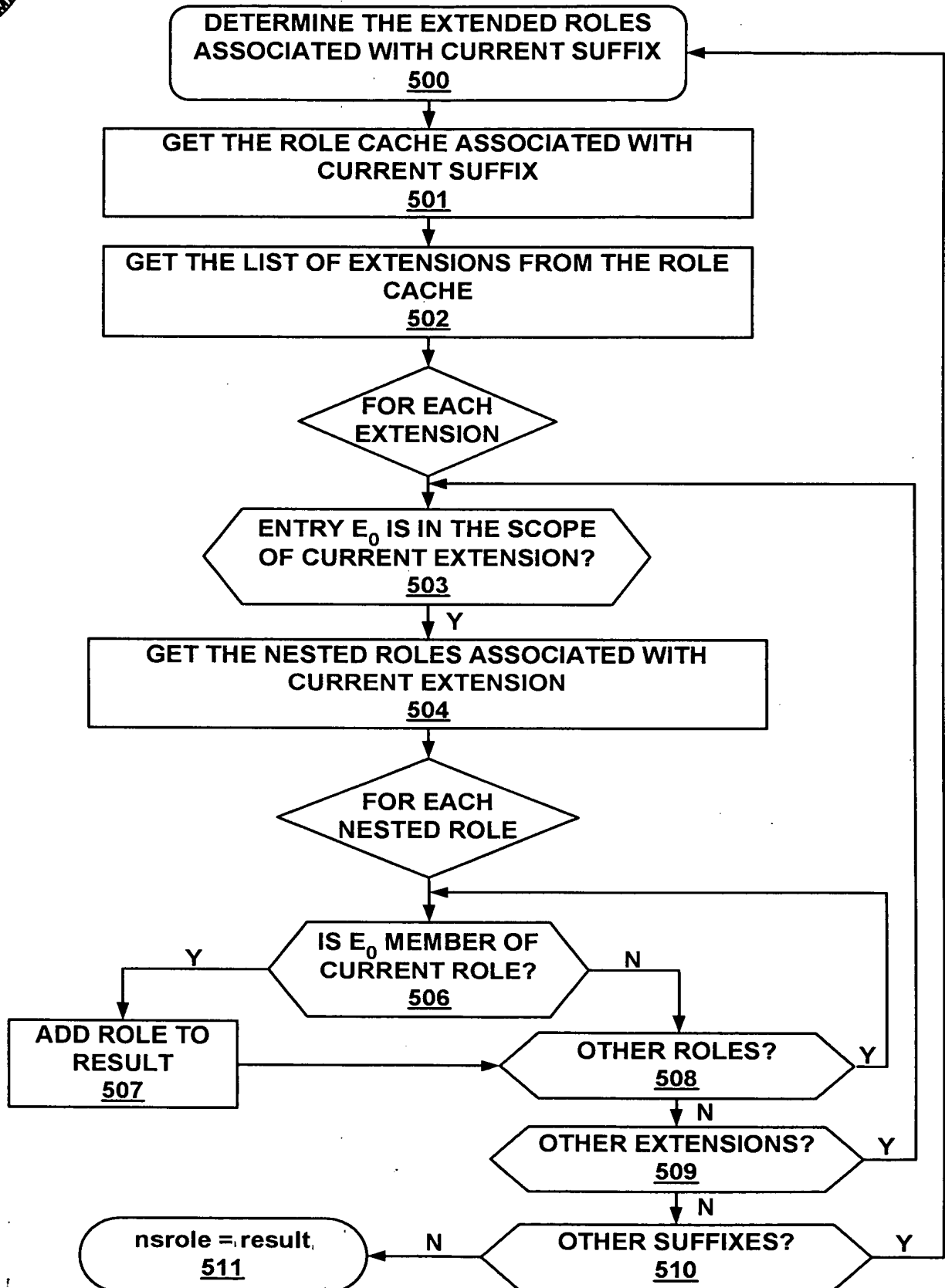


FIGURE 13B

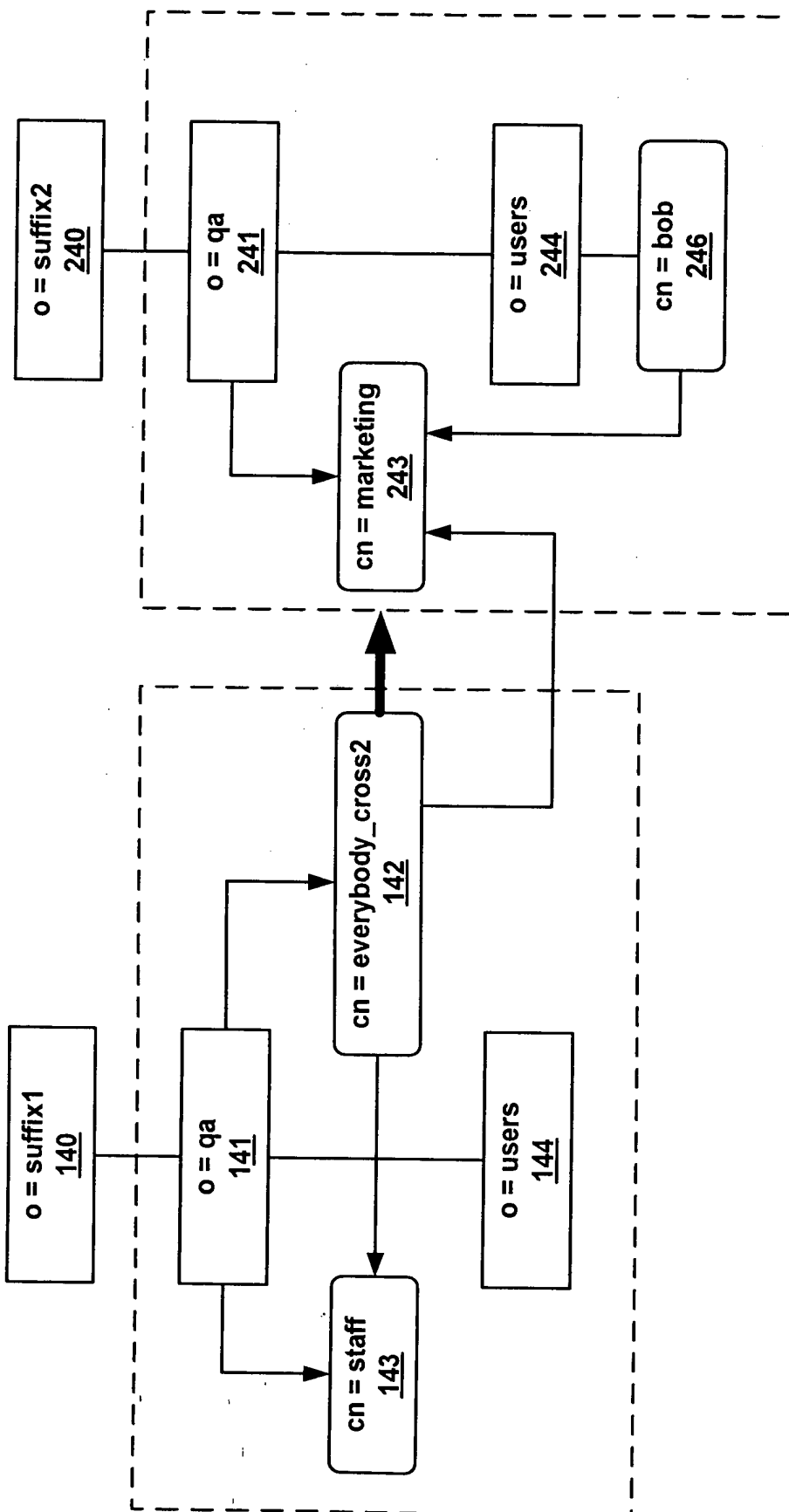


FIGURE 14

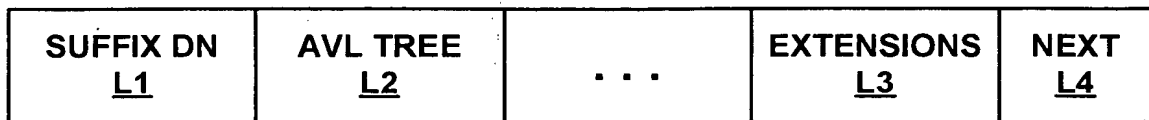
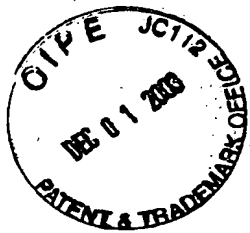


FIGURE 15A

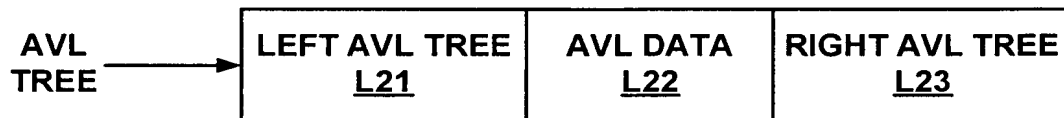


FIGURE 15B

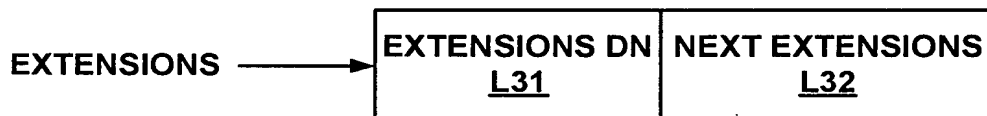


FIGURE 15C

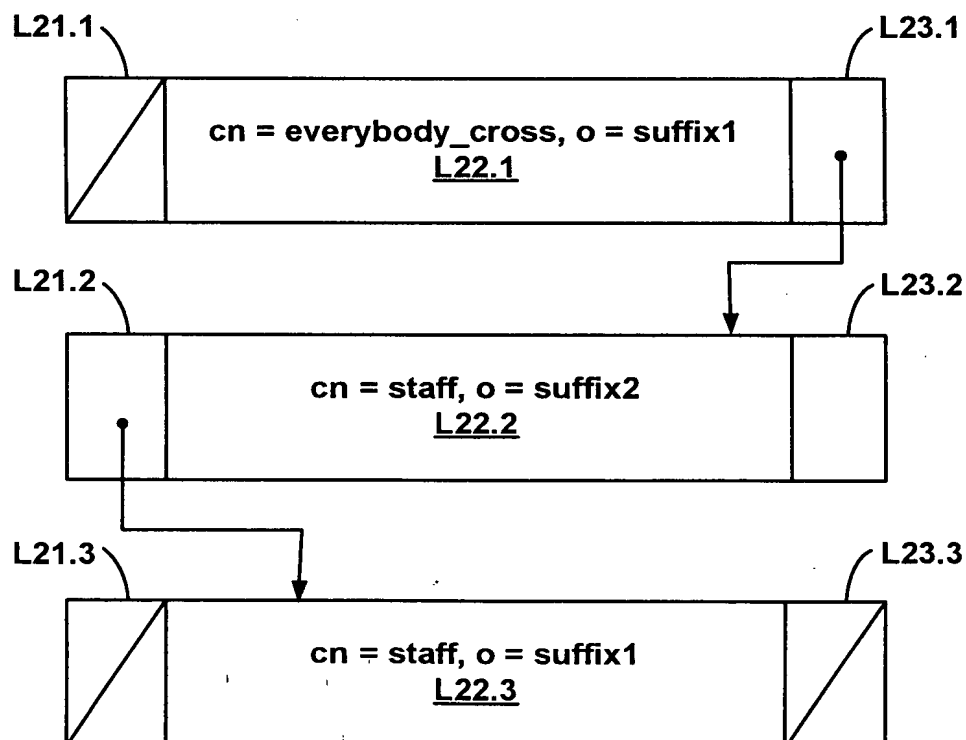
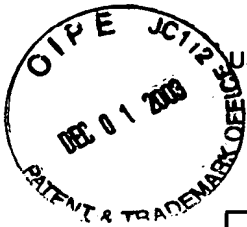


FIGURE 16



| | | | |
|------------------------|--------------------------|-----------------------------------|-------------------------|
| ROLE DN <u>L221</u> | ROLE TYPE <u>L222</u> | SCOPE EXTENSION DN <u>L223</u> | AVL TREE <u>L224</u> |
|------------------------|--------------------------|-----------------------------------|-------------------------|

FIGURE 17

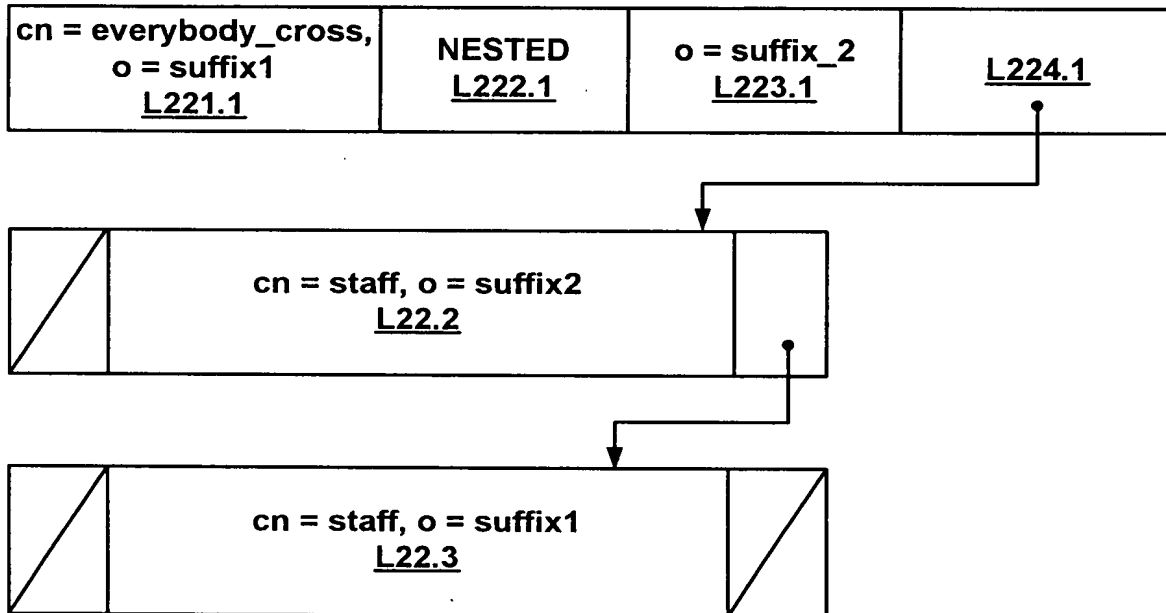


FIGURE 18A

| | |
|--|--------------------------|
| cn = staff, o = suffix2 <u>L221.2</u> | MANAGED <u>L222.2</u> |
|--|--------------------------|

FIGURE 18B

| | |
|--|--------------------------|
| cn = staff, o = suffix1 <u>L221.3</u> | MANAGED <u>L222.3</u> |
|--|--------------------------|

FIGURE 18C

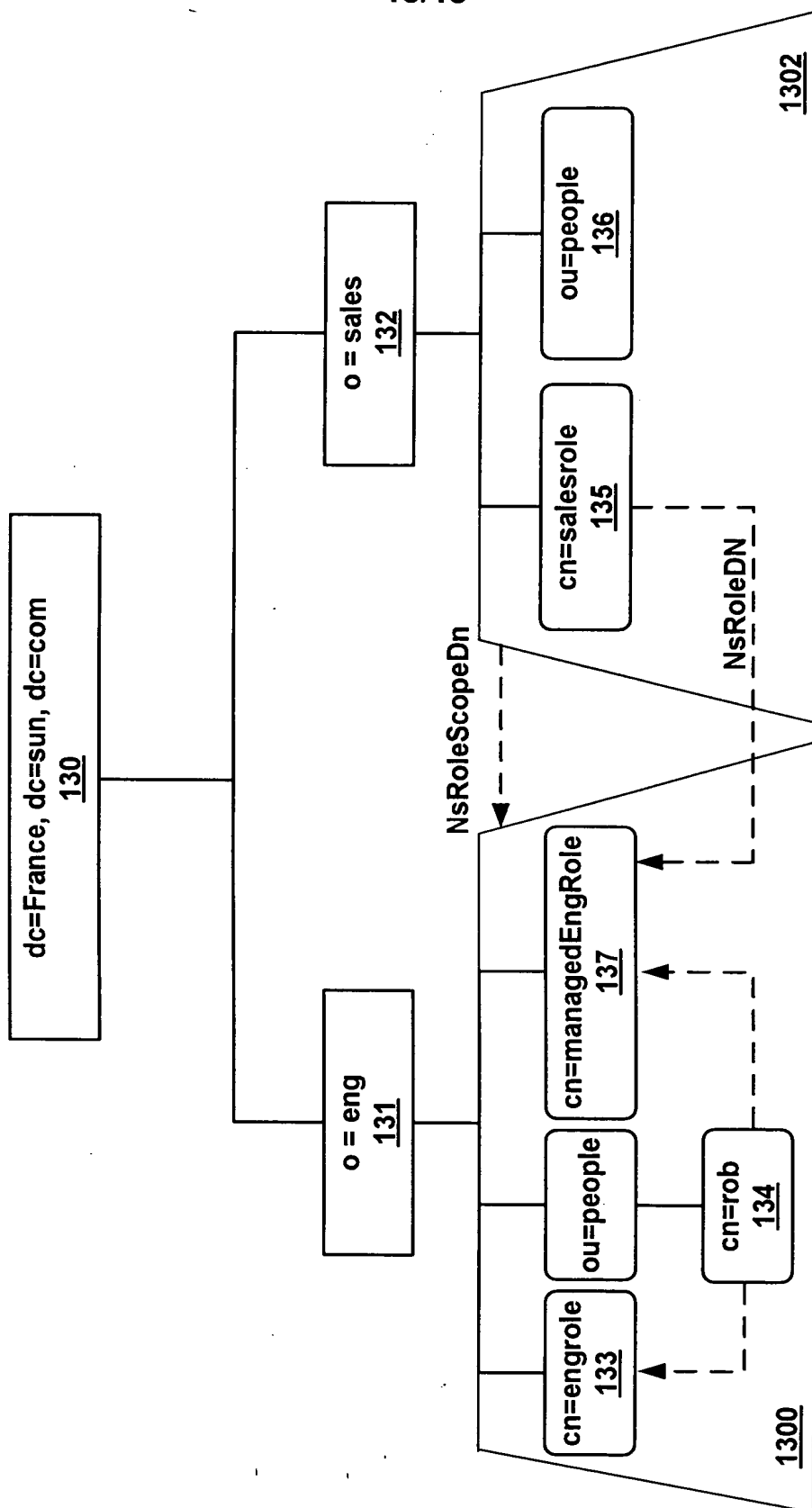


FIGURE 19